UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

Southeast Regional Office
9721 Executive Center Drive North
St. Petersburg, Florida 33702

November 26, 2002

Colonel Charles R. Alexander, Jr.
District Engineer, Wilmington District
Department of the Army, Corps of Engineers
Regulatory Division
P. O. Box 1890
Wilmington, North Carolina 28402-1890

Attention: Mickey Sugg

Dear Colonel Alexander:

The National Marine Fisheries Service's (NOAA Fisheries) has reviewed **Action ID No. 200100632** dated October 12, 2002, which provides notice of intent to prepare an Environmental Impact Statement (EIS) for plans by the Town of Emerald Isle to relocate the Bogue Inlet channel, place dredged material in the existing inlet channel, and conduct beach nourishment on approximately four miles of ocean beach on the western end of Bogue Banks in Carteret County, North Carolina. The purpose of the project is to re-position the main ebb tide channel through Bogue Inlet for purposes of erosion abatement that threatens infrastructure in The Pointe subdivision. An unstated secondary purpose, is to provide sand to complete beach nourishment at Emerald Isle.

According to the information provided, a hydraulic pipeline dredge would be used to relocate the inlet by excavating an intertidal shoal and reestablishing the inlet channel at it's late 1970's location. Specific dimensions for the new channel are not provided in the notice. An unspecified volume of dredged material would be placed in the existing inlet to divert water flow to the new alignment. An unspecified volume of dredged material would be placed on four miles of ocean front beach for shoreline renourishment. Work would be accomplished using a pipeline dredge and other heavy equipment.

NOAA Fisheries conducted an onsite inspection and participated in an October 29, 2002, scoping meeting to discuss issues to be addressed in the EIS. As noted at the scoping meeting, the project is located in an area identified by the South Atlantic Fishery Management Council (SAFMC) as Essential Fish Habitat (EFH) for red drum, cobia, brown shrimp, pink shrimp, and white shrimp. In addition, EFH for gag grouper, gray snapper, king mackerel and Spanish mackerel, is located in the project area. Categories of EFH for these species include marine and estuarine water column

including the ocean surf zone, intertidal shoals, emergent marsh, and sand/ mud bottoms. In addition, tidal inlets such as Bogue Inlet are designated as Habitat Areas of Particular Concern (HAPC) for shrimp and red drum. EFH for summer flounder and bluefish, which are under jurisdiction of the Mid-Atlantic Fishery Management Council (MAFMC) also occur in the project area. Categories of EFH for these species include estuarine and marine water column, intertidal flats, and marine and estuarine bottoms. Other species of commercial, recreational, and ecological importance found in the project area include Atlantic croaker, spot, Atlantic menhaden, striped mullet, and Florida pompano. These species serve as prey for species such as king mackerel, Spanish mackerel, cobia, and others that are managed by the SAFMC, and for highly migratory species (e.g., billfishes and sharks) that are managed by NOAA Fisheries.

Estuarine areas just inside of Bogue Inlet have been designated as a primary nursery area (PNA) for fishery resources managed by the North Carolina Division of Marine Fisheries. State designated fishery management areas are also identified in the fishery management plan amendments for the South Atlantic area as Geographically Defined Habitat Areas of Particular Concern. Detailed information on Federally managed fisheries and their EFH is provided in the 1998 amendments of the Fishery Management Plans of the South and Mid-Atlantic Regions prepared, respectively, by the SAFMC and the MAFMC. The amendments were prepared in accordance with provisions of the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA)(P.L. 104-297).

NOAA Fisheries is concerned that the project may adversely affect EFH and associated fishery resources. Planned dredging of intertidal and subtidal areas in the inlet and the placement of dredged material in open water and submerged bottoms would eliminate existing benthic organisms which serve as food for Federally managed species. Indirect impacts to EFH and living marine resources are also possible. These impacts include elevated turbidity levels and changes in hydrologic flow patterns that may extend far beyond the limits of actual dredging and filling. These changes could adversely affect the extensive system of tidal creeks, marshes, and submerged aquatic vegetation (SAV) located to the north of the immediate project site. These areas are designated by the North Carolina Division of Water Quality as Outstanding Resource Waters which are high-quality waters that require a high level of protection. Shellfish resources, including bay scallop, also occur in SAV beds near the project site and could be subjected to increased stress or mortality if suspended sediment levels are substantially increased.

We are also concerned that placement of dredged material on four miles of Emerald Isle beach will add to the cumulative impact associated with the ongoing nourishment of 16.8 miles of beaches at Pine Knoll Shores, Indian Beach, and Emerald Isle. This new work would increase ongoing and planned beach nourishment on Bogue Banks to 20.8 miles over a three year period. NOAA Fisheries previously raised concerns during our review of planned beach nourishment regarding the compatibility of sediments placed on beaches at Pine Knoll Shores and Indian Beach. Studies of the impact of beach nourishment on invertebrate infauna such as coquina clam and mole crab are presently underway for previously nourished sections of Bogue Banks and initial results indicate that opportunistic species (e.g. polychaete worms) are repopulating the nourished beaches; however, after one season of sampling little recovery of coquina clam and mole crab a populations has been documented.

Results of studies of the effects of beach nourishment on fishery resources in the surf zone, funded by the Towns of Pine Knoll Shores and Indian Beach, are not yet available. In addition, studies of the effects of relocating Mason Inlet in New Hanover County are underway but incomplete and may not be available for use in predicting the biological response of aquatic organisms to inlet relocation at Bogue Inlet.

In view of the preceding, NOAA Fisheries recommends that the following issues and concerns be addressed in the EIS:

1. The purpose and need for the project should be clearly defined and alternative plans should be identified and addressed. In connection with this, construction techniques, including anticipated post-construction maintenance activities, should be fully described.

2. A description of the area of influence of the inlet should be provided. At a minimum, the study area for the project should include the ocean beaches at Hammocks Beach and Bogue Banks and the extensive system of tidal creeks, marshes, SAV, and PNAs located adjacent to the Atlantic Intracoastal Waterway in Bogue Sound.

3. Detailed geological and ecological descriptions of the subtidal and intertidal areas to be dredged and filled should be provided. The descriptions should contain information on the composition of the substrate including grain sizes, and distribution and associated flora and fauna should described in terms of species composition, distribution, and abundance.

4. Incompatibility of grain size between borrow sites and beach nourishment sites has been problematic in connection with recent Bogue Banks beach nourishment projects. Efforts to avoid or minimize this situation should fully described in the EIS and where sediment incompatibility is anticipated then associated environmental and ecological consequences should be fully described.

5. NOAA Fisheries is concerned over uncertainty of the effects of partial refilling of the existing inlet channel. If diversion of tidal waters to the new channel is incomplete, the inlet may experience instability and unforeseen consequences. The EIS should explain why a portion of the dredged material would be used for beach nourishment rather than inlet stabilization and erosion control.

6. An EFH Assessment that describes project-related impacts to EFH and the appropriate life history stage for associated species should be included in the EIS. Other fishes and invertebrate species found in the project area also must be described and an assessment of the project's affects on these resources should be provided.

7. Both direct and indirect impacts to the aquatic environment should be described. The EIS should address short-term, long-term, and cumulative impacts in conjunction with other ongoing beach nourishment projects on Bogue Banks and throughout coastal North Carolina.

8. Construction schedules should be addressed and the relationship between these activities and biological processes such as fish spawning and recruitment should be described. The potential

for cumulative impacts of multiple dredging and beach nourishment projects could possibly be reduced if sufficient time for recovery of other portions of Bogue Banks were provided prior to initiation of this work.

9. A hydrodynamic model, as needed to accurately predict changes in water flow patterns associated with inlet relocation, should be developed and predicted effects of hydrodynamic changes on living marine resources should be described.

10. Planned monitoring of changes in the biota and physical character of the project area should be performed and such plans should be reviewed and approved by NOAA Fisheries and the Corps of Engineers prior to initiation.

11. The project will impact EFH and NOAA Fisheries may recommend against granting Federal permits. As part of our evaluation of impacts close attention will be given to impact avoidance and minimization and mitigation that would be provided for unavoidable impacts to living marine resources.

12. The EIS should include a long-term inlet management plan that describes anticipated action and impacts associated with reoccurrence of inlet migration and shoreline erosion. In connection with this, the plan should identify planned measures to avoid, minimize, and offset adverse impacts to fishery resources involved with future maintenance activities.

These comments do not satisfy your consultation responsibilities under Section 7 of the Endangered Species Act of 1973, as amended. If any activity(ies) "may effect" listed species and habitats under the purview of NOAA Fisheries, consultation should be initiated with our Protected Resources Division at the letterhead address.

Thank you for the opportunity to provide these comments. Related questions or comments should be directed to the attention of Mr. Ronald S. Sechler at our Beaufort Office, 101 Pivers Island Road, Beaufort, North Carolina, or at (252) 728-5090.

Sincerely,

for David H. Rackley

Andreas Mager, Jr.
Assistant Regional Administrator
Habitat Conservation Division

F A X

North Carolina
Coastal Federation

3609 Hwy 24 (Ocean)
Newport, NC 28570

Phone: (252) 393-8185
FAX: (252) 393-7508

To Mickey Sugg	From Jim Stephenson
Organization	
Fax Number	Date 12/3/02

Total number of pages, including this sheet 4

COMMENTS As you requested.

POSITION STATEMENT ON SAND MINING IN INLETS

Mining inlets for sand is risky business. Several existing inlet mining projects in North Carolina are causing increased beach erosion that is damaging private and public properties. Fish and wildlife are also being harmed. Before future mining projects are approved, permit applicants must assume the burden of proving proposed mining projects are environmentally acceptable. Regulatory agencies must also demonstrate that they have the capacity to anticipate the environmental consequences of mining activities, and to consistently enforce permit requirements.

Tidal inlets are among nature's most dynamic coastal environments, opening and closing in response to storms and, in some cases, migrating long distances back and forth along barrier shorelines. Linking ocean to sounds, inlets are crucial conduits for exchange of water, sediment and marine life. Natural shifts in inlet locations are associated with some of the highest ocean erosion rates in North Carolina.

Most inlets contain large reservoirs of sand, derived from the littoral transport system, and are therefore tied to the adjacent barrier islands. These distinctive shoals occur on both the ocean and sound side of the inlet, are referred to, respectively, as ebb tidal deltas and flood tidal deltas. Shoals exposed to waves and strong currents are in constant motion, exchanging and redistributing their sediments. Adjacent shorelines both on the beach and back along the sound are constantly receiving and losing sand that is released and captured by these deltas.

Many of North Carolina's 22 tidal inlets are dredged to meet navigational needs. A few inlets have also been dredged or realigned to protect coastal property. Dredging inlets disrupts the longshore sand-sharing system by trapping sand in deep, recently dredged channels. Dredging can also change the symmetry of an inlet, influence the pattern of incoming waves, and alter the natural "breakwater effect" of the ebb tidal delta.

Some beach communities view inlets as readily accessible sources of high-quality sand that can be mined to rebuild their eroded beaches. Altering an inlet system by removing sand can have substantial and unpredictable environmental impacts. The mining of Shallotte Inlet in 2000-2001 to provide sand to Ocean Isle Beach has been blamed for the loss of more than 300 feet of beach, dunes and plant life on the western end of Holden Beach in an area that had been accreting prior to the project. At Mason's Inlet, the relocation and widening of the inlet has caused a portion of the Atlantic Intercoastal Waterway to fill in with sand after just a few months, rather than a few years as forecast. Moreover, bird nesting areas adjacent to the inlet have not been managed in accordance with permit requirements, resulting in the loss of an entire nesting season for endangered bird species. NCCF does not believe that state and federal agencies have demonstrated that they have the capacity to comprehensively evaluate inlet alteration projects and to follow through on permit conditions made to mitigate environmental impacts.

Therefore, before any more mining projects are authorized, applicants must assume the burden of proving that their projects will not cause unacceptable environmental impacts. In addition, state and federal agencies must demonstrate that they will enforce permit requirements already placed on projects they've approved. Moreover, state and federal agencies should require all projects that propose to mine inlets for beach quality sand or to realign inlet channels to meet the following conditions:

1) **Environmental Impact Statement (EIS)** – An EIS must be conducted under the NC Environmental Policy Act or National Environmental Policy Act for any project that proposes to dredge or otherwise manipulate an inlet, tidal delta or adjacent estuarine area for the purpose of: a) relocating an inlet or channel, b) expanding the depth or width of an existing, authorized navigation channel; or, c) constructing or maintaining a beach fill project.

   a. All secondary and cumulative impacts must be identified and adequately addressed in the EIS, including those impacts that could affect estuarine or offshore fisheries resources, onshore and offshore threatened and/or endangered species, critical habitats, and the sediment budget on adjacent islands and mainland areas;

   b. All site-specific uncertainties of the implications must be modeled and corrected in the EIS prior to project approval, especially those impacts that are related to wave refraction and "draw down" of the ebb tidal delta; and,

   c. A comprehensive inlet management plan must be developed for the inlet and included as an attachment to the EIS.

   d. Environmental documents must adhere to the sequencing procedures that require avoidance, minimization, and finally compensation, including mitigation of impacts. All opportunities to avoid and minimize the long-term and multiple environmental impacts associated with inlet projects must be exhausted prior to compensating or mitigating for such impacts.

2) **Ecosystem monitoring and protection plan** – Ecosystem monitoring must be conducted prior to, during and for several years following an inlet alteration project. Pre-project, and post-project monitoring must be of sufficient duration and repetition to allow for an accurate comparison of conditions and understanding of impacts to the ecosystem. Independent experts in biological, physical and geological sciences should be engaged to develop and implement the monitoring plans during each season of the year and the plan must be peer reviewed prior to approval. Plans must require project sponsors to patrol newly created habitat to insure that humans or animals do not harass threatened and endangered species.

3) **Strict adherence to CAMA & US Army Corps of Engineers regulations, CAMA land use plans and state and federal water quality standards.**

4) **State mining permit** – If sand is to be removed from the inlet system, then a state mining permit must be secured.

5) **Removal of sand bags** – When an inlet alteration project is completed, all existing shoreline stabilization devices such as sandbags must be removed from the inlet hazard zone.

6) **Thorough evaluation of economic considerations** – The need for a nearby source of beach compatible sand must not be used as the overriding justification for an inlet-dredging project. Economic benefit, while relevant, must be compared to environmental cost.

7) **Acceptable mitigation strategy with financial assurances** – Mitigation must be planned and anticipated for both the expected and unexpected environmental impacts of inlet dredging projects. The project sponsor must be bonded and financially responsible for all mitigation, whether expected or unexpected. A detailed mitigation plan and timetable must accompany the CAMA permit with specific punitive actions for failure to comply on time.

8) **Prohibition of monetary, or other financial, gains from the private sale or exchange of public trust resources** – Sand removed from an inlet system is the property of the state. The Department of Administration must not allow private entities to sell or exchange ocean, inlet or estuarine sand without fully compensating the state.

9) **Proven track record** – Project applicants and engineering firms must have a proven track record with compliance with previous permit conditions. If permit conditions have not been met, then renewal of the applicant's CAMA permit must be disapproved.

10) **Public sponsorship of projects** – Inlet dredging projects must be sponsored by both adjacent municipalities.

11) **Approval of adjacent landowners** – Prior to issuing a CAMA permit for inlet dredging, the approval of adjacent property owners must be secured, including those owning property in the flood tidal delta and the barrier islands on both sides of the inlet.

DEPARTMENT OF THE ARMY
WILMINGTON DISTRICT, CORPS OF ENGINEERS
P.O. BOX 1890
WILMINGTON, NORTH CAROLINA 28402-1890

IN REPLY REFER TO April 5, 2002

Project Management Branch

Mr. Frank Rush, Town Manager
Town of Emerald Isle
7500 Emerald Drive
Emerald Isle, North Carolina 28594-9320

Dear Mr. Rush:

In accordance with our meeting on March 13, 2002, this is to provide you with the position of the U.S. Army Corps of Engineers, Wilmington District, Navigation Branch, regarding your proposal to realign the navigation channel through Bogue Inlet, Carteret County, North Carolina.

If the new channel you propose to dredge provides a complete navigation route from the inside to the ocean, with a minimum depth of 10 feet and a minimum width of 150 feet (to include allowable overdepth), and results in a single channel within the inlet to take advantage of natural flows to keep the channel open, we do not believe, based on the information available to us at this time, that your proposed project would have an adverse effect on the Federal navigation project. As we have discussed on several occasions, regardless of where you may wish to maintain the channel, the Wilmington District would continue to maintain the deepest natural channel with the straightest alignment to supplement the natural flows, casting material to whichever side of the channel affords least return of the material to the channel. We would not attempt to maintain a set alignment.

As stated during the meeting, your proposal to realign the channel through Bogue Inlet will require Section 10 and 404 permits from our Regulatory Division. The decision on a permit application will require a consideration of numerous factors other than impacts to the Federal navigation project, and this correspondence should not be construed as an indication that a permit for your project will necessarily be issued. Mr. Keith Harris, Field Office Manager, Wilmington Regional Office, will be contacting you regarding the permit process. His telephone number is (910) 251- 4631.

Please contact Mr. Bob Sattin, Chief, Navigation Branch, if you have any questions regarding the Navigation Branch's position on your proposed project. He can be reached at (910) 251-4819.

Sincerely,

for Daniel Small
Navigation Project Manager

From: Mickey.T.Sugg@saw02.usace.army.mil
Sent: Tuesday, October 22, 2002 1:31 PM
To: Erin Haight
Cc: Tom Jarrett
Subject: FW: Biological Assessment

Let me know if you need more assistance, (910) 251-4811.
-Mickey

-----Original Message-----
From: Sugg, Mickey T SAW
Sent: Monday, October 21, 2002 3:01 PM
To: Tom Jarrett (E-mail)
Cc: Frank Rush (E-mail)
Subject: Biological Assessment

Tom,

I spoke with David Rabon, USFWS T&E coordinator, and discussed the BA with him in general terms. He informed me that the BA needs to address Critical Habitat for Piping Plover separately. After you disclose the effect determination for plover, add a separate title called Critical Habitat for Wintering Piping Plover and describe how the project will affect this habitat. The effect determination, at this time, should read "likely to adversely affect the primary constituent elements" for wintering piping plover habitat. Once the BA is completed, I will send a copy to him and start informal consultation. He wants to hold off on formal consultation, pending possible changes in the plan. Time should not be a factor in the consultation due to our early coordination with them. He reconfirmed this.

As for Oct. 29, I am working on the agenda list and hope to have it to you by Thursday. For supplies, need to have about 10-12 butcher boards for each group session, black markers, tape-duct or masking, table set up at front door with someone manning the check-in list, and a microphone on some type. The person at the table should be from EI (Frank's office?) or someone familiar with the local public and government officials. At this table, you need to have a separate sign-up sheet for local, State, & Federal elected officials (mayors, commissioners, and State & Federal legislatures). They will have a chance to speak, 3-5 minutes, during the closing remarks. Also, need someone taking notes of the meeting (not necessarily verbatim).

-Mickey

State of North Carolina
Department of Environment
and Natural Resources
Division of Marine Fisheries

NCDENR
North Carolina Department of
Environment and Natural Resources

To: Erin Haight

From: Clay Caroon

Subject: Bogue Inlet Project

Date: October 25, 2002

Erin, please find enclosed strata map with associated shellfish densities. According to the maps you sent me, there is no substantial shellfish resource in the footprint of the proposed channel. According to the Shellfish Mapping Program's data the only shellfish resource around this area is found in "V" and "W" stratas. "V" strata is found around the edge of the marshes, which is labeled as land on the enclosed map and "W" strata is found behind and throughout the marshes. If you have any question place contact me.

Sincerely,

Clay Caroon
Shellfish Biologist
North Carolina Division of Marine Fisheries
PO Box 769
3441 Arendell Street
Morehead City, N.C. 28557-0769
(252) 726-7021/ 1-800-682-2632
clay.caroon@ncmail.net